

IN THE CLAIMS

1. (Twice Amended) A solid oxide fuel cell ~~operating at a temperature in the range of 400-700°C,~~ comprising;

~~an anode including doped-ceria, wherein said doped-ceria is deposited by~~
colloidal spray deposition;

an electrolyte including doped-ceria, ~~based;~~ and

a cathode including at least one cobalt iron based materials, ~~whereby the wherein~~
said fuel cell is capable of operating ~~operates~~ in the temperature range of 400-700°C.

2. (Twice Amended) The fuel cell of Claim 1, wherein said anode ~~is composed of~~ comprises NiO and doped-ceria.

3. (Twice Amended) The fuel cell of Claim 1, wherein said doped-ceria ~~includes~~ is doped
with at least one dopants selected from the group consisting of samarium oxide,
gadolinium oxide, yttria oxide, and lanthanide oxide.

4. (Twice Amended) The fuel cell of Claim 1, wherein said anode, said electrolyte, and said
cathode are porous. ~~fuel cell includes pores created by a pore former.~~

5. Cancelled

6. (Twice Amended) The fuel cell of Claim 1, wherein said electrolyte comprises material selected from the group consisting of doped-ceria, doped-zirconia with a thin layer of doped-ceria, and a mixture of doped-ceria and doped-zirconia.

~~7. (Twice Amended) The fuel cell of Claim 1, wherein said electrode cathode is selected~~
from the group consisting of (La, Sr)(Co, Fe) O₃, and (La, Ca) (Co, Fe, Mn)O₃.

8-10. Cancelled

11. (Twice Amended) The fuel cell of Claim 1, wherein the cathode ~~of the fuel cell~~
~~comprises material composed of~~ comprises a cobalt, iron, manganese based material.
~~formed by colloidal spray deposition.~~

12. (Currently amended) A ceria-based solid oxide fuel cell ~~including~~ comprising:
an anode containing doped-ceria, wherein said doped-ceria is deposited by colloidal
spray deposition;

an electrolyte containing doped-ceria;_i

an electrode containing cobalt iron based materials;_i and

a fuel selected from the group consisting of hydrogen, methane, methanol,
propane, butane and other hydrocarbons.

13. (Original) The fuel cell of Claim 12, operating in a temperature range of 400-700°C.

14. (Original) The fuel cell of Claim 12, wherein said fuel is composed of hydrogen or methane, and wherein the operating temperature is about 550°C.

~~15. (Twice Amended) The fuel cell of Claim 12, wherein said fuel is hydrogen, and said~~
fuel cell has a power output of up to 400mW/cm² at an operating temperature of 550°C.

16. (Twice Amended) The fuel cell of Claim 12, wherein said fuel is methane, and said fuel cell has a power output of 320mW/cm² at an operating temperature of 500°C.

17. (Amended) The fuel cell of Claim 12, wherein said anode comprises NiO and doped-ceria.

18. (Original) The fuel cell of Claim 17, wherein said electrolyte additionally includes doped-zirconia.

19. (Amended) The fuel cell of Claim 18, wherein said electrode is composed of (La, Sr)(Co, Fe)O₃ selected from the group consisting of (La, Sr) (Co, Fe)O₃ and (La, Ca) (Co, Fe, Mn) O₃.

20. (Original) The fuel cell of Claim 19, wherein said doped-ceria is doped with samarium oxide or gadolinium oxide.